

AMENDMENTS TO THE DRAWINGS

Four sheets of drawings are attached to this paper to replace the original sheets to the application depicting FIGS. 1-6. FIGS. 1-6 have been amended to correct the line, number and letter quality of the original drawings. FIG. 1 has also been amended to correctly label ring member 20, front portion 21 and beveled edge 23. FIGS. 3, 4 and 5 have been amended to omit extraneous reference numbers 28 and 29. FIG. 4 has been further amended to more clearly depict beveled edge 43 and funnel-shaped surface 44 of front portion 41 of second ring member 40 and to eliminate unnecessary shading.

Attachment: Replacement Sheets (4)

REMARKS

Applicant appreciates the attention of the Examiner to the application. The Office Action of the Examiner of February 24, 2005 has been reviewed with care in the preparation of this response. The amendments above and the following remarks are believed to be fully responsive to this action.

Status of Claims

Claims 1-19, as presented by the above amendment, are pending. The pending claims set forth a novel and non-obvious level having a vial secured to it and method of mounting a vial to such a level. Allowance of all pending claims is respectfully requested in view of the above amendment and the following remarks.

Claims 1-3, 6-9 and 12-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kohner (U.S. Patent No. 5,709,034) in view of Baker et al. (U.S. Patent No. 5,406,714).

Claims 4, 10 and 16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kohner in view of Baker and further in view of MacDermott. Claims 5, 11, 14 and 17-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kohner in view of Baker, in view of MacDermott and further in view of Kivistö et al. (U.S. Pub. No. 2002/0186123).

Applicant is submitting the above amendment to the specification to correct certain inconsistencies in the description of the invention disclosed in the application as originally filed and to correspondingly improve the clarity of the specification. Applicant has further prepared and hereby submits the above amendment to the claims. Independent claims 1, 7 and 13, dependent claims 8-12 to claim 7, and dependent claim 14 to claim 13 have been amended.

Applicant has also prepared and submits replacement sheets for FIGS. 1-6 in compliance with 37 CFR §1.121(d). FIGS. 1-6 have been amended to correct the line, number and letter quality of the original drawings. FIG. 1 has also been amended to correctly label elements 20, 21 and 23. FIGS. 3-5 have been amended to omit extraneous reference numbers 28 and 29. FIG. 4

has been further amended to more clearly depict certain structures of the second ring member and to eliminate unnecessary shading.

Each amendment is fully supported by the specification to the application and does not include any new matter. The claims as amended are patentably distinguishable over the prior art and the references cited by the Examiner in particular. Applicant now turns to the particular points raised by the Examiner in the Office Action of February 24, 2005.

Rejection of Claims 1 and 7 under 35 U.S.C. §103(a)

Independent claims 1 and 7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kohner in view of Baker. Pending claims 2-6 and 8-12 are dependent to claim 1 and claim 7 respectively. As amended, claims 1 and 7 are not rendered obvious by these references. Applicant respectfully traverses the rejection of amended claims 1 and 7 and any claim dependent to them and requests that each of these rejections be withdrawn.

Obviousness under 35 U.S.C. §103(a) can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In re Jones, 958 F.2d 347 (Fed. Cir. 1992). In addition, any such combination or modification of the prior art must still teach or suggest each and every one of the claim limitations. MPEP §2143.

Claims 1 and 7 specify that a ring member enclose the vial within the recess of the level where the front and rear portions of the ring member have beveled edges forming a funnel-shaped surface. A ring is by definition “a circular band for holding, connecting, hanging, pulling, packing, or sealing”. Webster’s Ninth New Collegiate Dictionary © 1991 by Merriam-Webster Inc. A funnel is “a conical utensil having a small hole or narrow tube at the apex and used to channel the flow of a substance, as into a small-mouthed container”. The American Heritage Dictionary of the English Language, Fourth Edition © 2000 by Houghton Mifflin Company. Furthermore, a cone is “a solid generated by rotating a right triangle about one of its legs - called also right circular cone”. Webster’s Ninth New Collegiate Dictionary.

As seen by the definitions above, a “ring member” having a “funnel-shaped” surface must be circular. Applicant has amended claims 1 and 7 to make more clear and explicit this feature. Neither Kohner nor Baker, however, teach or suggest this limitation. While the Examiner acknowledges in the present Office Action that such a ring member is not disclosed by Kohner, this deficiency is not cured by Baker.

Although Baker discloses certain bezels 64, 66 having a surface tapering in a concave manner from their outer edges 84, 86, each is oval-shaped and not circular. (Baker in FIG. 1 and at col. 5, line 7). The bezels are mounted in the oblong apertures 20 on each side of the level body. The apertures, the bezels as well as the vial holding plate 32 are all taught as being oval so as to provide a vial window assembly that accommodates both horizontal and plumb vials since the horizontal vial is longer than the plumb vial. (Baker at col. 3, line 65 to col. 4, line 8; at col. 5, lines 36 - 47; at col. 6, lines 31 - 34).

Even if Baker was said to disclose a ring member having the features set forth in amended claims 1 and 7, an examiner may not simply select from the prior art the separate components of the claimed invention through the use of the blueprint supplied by the inventor. Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 227 USPQ 543 (Fed. Cir. 1985). The act of identifying the various elements of the claimed invention in the prior art without there being any teaching, suggestion or motivation for their combination is not the legal test of obviousness.

It is, after all, well recognized that most, if not all, inventions are no more than combinations of old elements in the prior art. Environmental Designs, Ltd. V. Union Oil Co., 713 F. 2d 693, 218 USPQ 865 (Fed. Cir. 1983); Richdel, Inc. V. Sunspool Corp., 714 F. 2d 1573, 219 USPQ 8 (Fed. Cir. 1983). “If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be ‘an illogical and inappropriate process by which to determine patentability.’ Sensonics, Inc. v. Aerosonic Corp.,

81 F. 3d 1566, 1570, 38 USPQ 2d 1551, 1554 (Fed. Cir. 1996).” In re Rouffet, 47 USPQ 2d at 1457 (Fed. Cir. 1998).

In the present Office Action, there is no showing of any reasons or motivation in the references cited to support the combination and modification relied upon for the obviousness rejection of claims 1 and 7. A specific explanation why a skilled artisan would have been motivated to make a claimed combination and/or modification must be set forth by an examiner after any rejection under 35 U.S.C. §103. MPEP §706.02(j). The Examiner makes reference only to how “it would have been obvious to a person having ordinary skill in the art at the time the invention was made” to modify the bands in Kohner by giving them the tapered edges of the bezels in Baker. This is not the required showing but an exercise in the hindsight frowned upon by the courts.

Furthermore, the Examiner fails to explain what the specific understanding or technological principle within the knowledge of a skilled artisan is that would have suggested to such an individual to make the modification to the bands in Kohner that is needed to arrive at the claimed ring member. While the purpose of the modification is said by the Examiner to be one of helping increase the visibility of an object during use, there is no showing of any engineering principle taught for accomplishing this in any of the references cited. The teachings of the present application for enhancing the visibility of a vial in a level, therefore, stand alone.

In addition, Kohner teaches against modifying its bands in the manner suggested. To do so would create a highly unsatisfactory clamp 20 having bands 44 that would lose their ability to have the vial 90 bonded to it when the vial is inserted into the clamp. (Kohner at col. 4, lines 20 - 27). As seen in FIGS. 2 and 5 of Kohner, the inner surface of the clamp is dimensioned to make tight contact with all of the outside surface of the vial for solid bonding when secured within the clamp. This obviously intended purpose for the bands of the clamp is clearly inapposite to the suggested modification by the Examiner.

This lack of any explanation by the Examiner of the motivation for one skilled in the art to select and then modify the references cited, along with the other reasons discussed above, demonstrates that a *prima facie* case of obviousness has not been made to maintain rejection of

claims 1 and 7. Applicant believes that these rejections should therefore be withdrawn and that these claims, in addition to claims 2-6 and 8-12 that are dependent to them, be allowed.

Rejection of Claims 2, 6, 8 and 12 under 35 U.S.C. §103(a)

Claims 2, 6, 8 and 12 were rejected under 35 U.S.C. §103(a) as also being unpatentable over Kohner in view of Baker. Pending claims 3-6 and 9-12 are dependent to claims 2 and 8 respectively. Claims 2, 6, 8 and 12 are not rendered obvious by these references and Applicant respectfully asks that the rejection of claims 2-6 and 8-12 be withdrawn.

Claims 2 and 8 add the limitation that there be first and second ring members, each having front and rear portions. The Examiner acknowledges that Kohner discloses only a first ring member (clamp 20) and no second ring member. This deficiency is not resolved by Baker since it too shows, at best, only single front and rear oval-shaped portions (bezels 64, 66). Moreover, no disclosure of first and second ring members is even attributed to Baker in the Office Action to support the rejection made.

Claims 6 and 12 require that the first and second ring members be bonded together before the vial is enclosed in the recess of the level. Given that neither reference discloses dual ring members, there is clearly no showing of ring members being bonded together to support the rejection of these claims.

Since the applied references fail to teach or suggest all of the limitations in claims 2, 6, 8 and 12, Applicant believes that these specific rejections have been additionally traversed and that each of claims 2-6 and 8-12 should be allowed.

Rejection of Claims 3 and 9 under 35 U.S.C. §103(a)

Claims 3 and 9 were also rejected under 35 U.S.C. §103(a) as being unpatentable over Kohner in view of Baker. Claims 3 and 9 require that the second ring member have wing members with apertures and that the level have openings spaced from the recess in which the vial is enclosed so that fasteners can be passed through the apertures and openings to secure the second ring member to the level.

The added features of claims 3 and 9 are stated by the Examiner to be taught or suggested by Kohner. The supposed apertures shown in Kohner, however, are merely depressions 49 designed to receive wedge portion 75 of ribs 74 on the insertion portion 70 of end cap 30. Likewise, no openings spaced from recess 56 are disclosed in Kohner. Given that these deficiencies are furthermore not cured by Baker, the rejections of claims 3 and 9 should be specifically withdrawn for these reasons as well.

Rejection of Claims 4 and 10 under 35 U.S.C. §103(a)

Claims 4 and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kohner in view of Baker and further in view of MacDermott. Claims 4 and 10 add the restriction that first and second ring members have contrasting colors. None of the applied references, alone or in combination, teach or suggest first and second ring members having front and rear portions. Likewise, each reference also fails to disclose dual ring members having contrasting colors.

MacDermott recognizes the problem of reading the vial of a level under poor lighting conditions and does comment on how the image of the bubble in the vial can be enhanced with “a luminescent, color contrasting, or reflecting background *against which* the bubble level is viewed.” MacDermott at col. 1, lines 35-37 (emphasis added). There is no teaching or suggestion in MacDermott of the vial being enclosed with a first ring member having a contrasting color from that of a second ring member enclosing the first. Moreover, MacDermott teaches against contrasting colors as a solution to the problem of reading a level under poor light by emphasizing instead the actual illumination of the vial.

Moreover, there is no showing here by the Examiner of any motivation for the suggested combination of the references cited. An explanation as to why a skilled artisan would have been motivated to select these specific pieces of prior art so as to arrive at the claimed method and level is absent from the Office Action but for the conclusory statement that such would have been obvious. There must be more of a justification for combining references, much less modifying them, than solely the fact that such pieces of prior art happened to have been known at the time of the invention. The ability to combine or modify references does not render the

resultant combination obvious unless the prior art teaches or suggests the desirability of the combination or modification. MPEP §2143.01.

This lack of explanation, along with each of the other reasons set forth above, establishes that a *prima facie* case of obviousness for rejection of claims 4 and 10 has not been made and that these claims should now, therefore, be allowed.

Rejection of Claims 5 and 11 under 35 U.S.C. §103(a)

Claims 5 and 11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kohner in view of Baker, in view of MacDermott and further in view of Kivisto. Claim 6 is dependent to claim 5. Claims 5 and 11 add the limitation that the second ring member be a soft elastomeric. Kivisto does not cure the deficiency in each of the other applied references by teaching or suggesting first and second ring members having front and rear portions. Likewise, each of these references, alone or in combination, fails to disclose a soft elastomeric ring member.

In addition, any prior art reference relied upon by an examiner in a determination of obviousness under 35 U.S.C. §103 must be “analogous prior art.” MPEP §2141.01(a). Kivisto is not analogous prior art. The standard for identifying what constitutes analogous art is well-established: “Two criteria have evolved for determining whether prior art is analogous: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.” In re Clay, 966 F.2d 656, 658, 23 USPQ 2d 1058 (Fed Cir. 1992).

Claims 5 and 11 are directed to a improved level and a method of forming such a level having a ring member that is a soft elastomeric to provide impact-absorption to the level. Kivisto deals with a communication device having a hermetically sealed housing. Nothing in this reference is directed, therefore, to the same field of endeavor as the claimed invention, namely hand tools, geometric instruments, and, in particular, spirit levels.

Kivistö is also not reasonably pertinent to the problem of concern to the Applicant, i.e. the providing of a level having improved impact resistance with a structure in which the vial is positioned. A person with ordinary skill in the art of the carpentry industry would not have been expected to solve such a problem by looking for a reference dealing with a manner of sealing off the housing of a communication device so that it is impervious to gases and liquids or with making flame-proof the interface between the housing and its cable or with the desirability of construction from a lightweight and corrosive resistant material. While it may have been obvious to provide a level with a tight seal that resists entry of liquids and gases into it so as to prolong the life span of the tool in light of Kivistö, this was not the problem facing Applicant.

The Examiner is believed to be suggesting in the Office Action that it would have been obvious, in view of Kivistö, to modify the bands in Kohner, as modified by Baker, by making the bands out of acrylonitrile butadiene styrene (ABS) with an outer layer of thermoplastic rubber. Once again the Examiner simply calls upon the supposed level of skill of one skilled in the art without any explanation of what motivation is actually found within the references for that individual to have produced the claimed invention from the proposed combination. This is not the required showing of obviousness under the MPEP but a piecing together of prior art to defeat patentability. Moreover, there is simply no teaching or suggestion in any one of the cited references for a single ring member, much less the second of two ring members, to be a soft elastomeric.

The lack of motivation for the combination and modification of prior art asserted by the Examiner is further highlighted by the fact that there is no purpose suggested in the Office Action for modifying the bands of the clamp in Kohner by making them out of a soft elastomer and, in particular, out of ABS and thermoplastic rubber other than to utilize a lightweight and corrosive resistant material and to provide a tight seal to resist entry of gases and liquids . As stated above, however, Kohner teaches that the only purpose for the bands is to provide a structure for holding the vial securely in place. The advantages raised by the Examiner for a transformation of the bands into portions of one of the claimed ring members are extraneous and inapposite to the intended function of these features.

Moreover, Kohner also fails to offer any suggestion that, even if the bands had been made of a soft elastomeric, they would have provided impact-absorption to the level. The bands in the primary reference are disclosed as being entirely recessed within the body of the level (FIGS. 3 and 5). Most, if not all, of any impact to the level in Kohner is therefore absorbed by the body of the level, in particular the sidewalls 50, 52 adjacent to the clamp.

For all of these reasons, Applicant asks that the rejection of claims 5 and 11 and any claims dependent to them be withdrawn and that these claims now be allowed.

Rejection of Claims 13-19 under 35 U.S.C. §103(a)

Claims 13-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kohner in view of Baker. Claim 13, as amended, requires that a ring member enclosing the vial within the recess of the level is circular and has a beveled edge forming a funnel-shaped surface, each point along the edge defining a slope line that intersects the vial. For all of the reasons stated earlier with respect to the allowability of claims 1 and 7, these references, alone or in combination, fail at least to teach or suggest a circular ring member having a beveled edge that forms a funnel-shaped surface. As with claims 1 and 7, claim 13 is amended to make more clear and explicit that a “ring member” having a “funnel-shaped” surface must be circular.

In addition, neither Kohner nor Baker disclose a ring member having a surface that defines slope lines intersecting the vial. This property of a ring member is stated by the Examiner in the Office Action as being shown in Baker. A detailed reading of Baker including close examination of its drawings fails to supply any objective basis for this proposition. There is no way of knowing without resorting to speculation or hindsight reconstruction that the tapered surfaces of bezels 64, 66 define slope lines that will intersect with one or both of the vials shown. Rejections based on 35 U.S.C. §103(a) must rest on a factual basis. In re Warner, 379 F. 2d 1011, 154 USPQ 173 (CCPA 1967).

Since the Examiner has not advanced the necessary factual basis to support a finding that Baker shows or discloses the elements of amended claim 13 that are missing from Kohner,

Applicant respectfully submits that the rejection of amended claim 13 should be withdrawn.

Claim 13 and each of claims 14-19 that depend from it are therefore in condition for allowance.

Claim 14, as amended, adds the limitation that each of the slope lines intersect the central portion of the vial. Given that the bezels in Baker are oval shaped and not circular, each of the slope lines defined by its surfaces do not intersect that portion of the vial where the bubble rests between marker rings when the measuring surface is set. This would be true even if, unlike what is shown in Baker, a single vial is centrally placed within the vial holding plate. Moreover, there is no teaching or disclosure in Baker that would suggest otherwise. For each of these additional reasons, Applicant asks that the rejection be specifically withdrawn and that amended claim 14 be allowed.

Claim 15 provides that the ring member have wing members with apertures and that the level have openings spaced from the recess in which the vial is enclosed so that fasteners can be passed through the apertures and openings to secure the ring member to the level. For the same reasons set forth above with respect to the allowability of claims 3 and 9, neither of the cited references teach or suggest this additional feature. Applicant traverses therefore the rejection of this claim and requests that it be allowed.

Claim 16 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kohner in view of Baker and further in view of MacDermott. Claim 16 includes the restriction that the ring member have inner and outer layers, these layers having contrasting colors to outline the vial. For the same reasons set forth above with respect to the allowability of claims 4 and 10, none of these references, alone or in combination, teach or suggest a ring member having inner and outer layers, much less a ring member having layers of contrasting colors. In addition, as with claims 4 and 10, there is no showing of any motivation for the suggested combination. Applicant respectfully traverses the specific rejection of claim 16 and requests that it be allowed, as well as claims 17-19 that depend from it, for each of these additional reasons.

Claims 17-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kohner in view of Baker, in view of MacDermott and further in view of Kivistö. For identical reasons as stated earlier regarding the allowability of claims 5 and 11, each of these references fails to

disclose a ring member having elastomeric inner and outer layers as set forth in claim 17. In addition, there is an absence in each reference of a ring member where the inner layer is ABS and the outer layer is thermoplastic rubber, the added limitation in claim 18. Claim 19 is restricted to where the outer layer of the ring member has a lower density than its inner layer, a restriction that is also not taught or suggested by the applied references.

Any prior art reference relied upon by an examiner in a determination of obviousness under 35 U.S.C. §103 must be analogous prior art and, for the reasons set forth above with regard to claims 5 and 11, Kivisto is not analogous prior art. Moreover, there is no showing by the Examiner of the necessary motivation within the cited references for the suggested combining and modifying of these pieces of prior art so as to satisfy the deficiencies in their disclosure of each of the limitations in these claims.

As pointed out above as an additional reason for traversing the rejections of claims 5 and 11, this lack of motivation for the combination and modification asserted by the Examiner is highlighted by the absence of any reason for modifying a band of the clamp in Kohner by making it out of elastomeric layers and, in particular, out of an inner layer of ABS and an outer layer of thermoplastic rubber. Kohner teaches that the only purpose for the bands is to provide a structure for holding the vial securely in place so any suggestion of transforming a band into the claimed layered ring member would be extraneous and inapposite to the intended function of this structure.

For each of these reasons, the rejection in the Office Action of claims 17-19 is also asked to be withdrawn and these claims are requested to be allowed.

Conclusion

Applicant's invention, as set forth in the amended claims, represents a novel and non-obvious level and method of forming such a level. Applicant believes that the now pending claims 1-19 have elements not disclosed or suggested in the prior art. Applicant respectfully submits that all rejections in the Office Action have been traversed by amendment and argument, placing the application in condition for allowance. Early favorable action is earnestly solicited.

In re Patent Application Serial No. 10/826,941
Charles D. Kim



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The Examiner is invited to call the undersigned if such would be helpful in resolving any issue which might remain.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Richard W. White".

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